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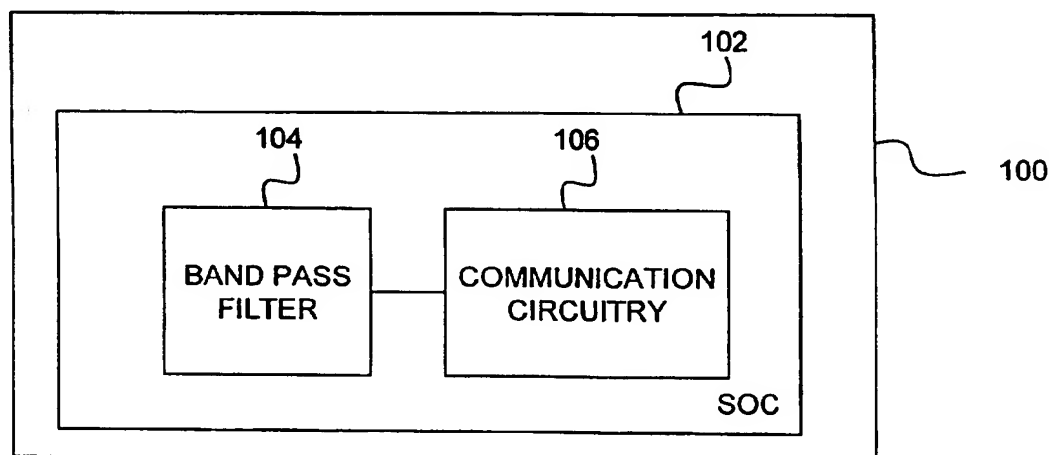
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(54) Title: INTEGRATION OF FILTERS USING ON-CHIP TRANSFORMERS FOR RF AND WIRELESS APPLICATIONS



(57) Abstract: A band pass filter (114) is formed on an integrated circuit (IC) chip (102). Such band pass filter (114) may be used in a RF or wireless communication device, such as a mobile phone or a personal data assistant (PDA). The band pass filter (114) includes a transformer (202 and 204) made of a pair of metallic spirals formed on the IC chip. The metallic spirals may have substantially square or rectangular overall shape, and may be fabricated using copper. The metallic spirals may be co-planar and inter-wound or may be stacked, one on top of the other, and separated by a dielectric layer. The transformer (202 and 204) is capable of receiving an input signal, and providing high pass filtering to the input signal. The band pass filter (114) also includes a capacitor (226, 2; 8, 230 and 232) that is capable of receiving the input signal and providing low pass filtering in conjunction with an inductance of the transformer (202 and 204). The band pass filter (114) provides band pass filtering through cascading said high pass and low pass filtering.

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